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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,988	09/22/2003	Patrick L. Iversen	50450-8060	1777

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EXAMINER
YOUNG, MICAH PAUL

ART UNIT	PAPER NUMBER
1618	

MAIL DATE	DELIVERY MODE
06/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/668,988	IVERSEN ET AL.	
	Examiner	Art Unit	
	Micah-Paul Young	1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9 and 13-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9 and 13-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Acknowledgment of Papers Received: Amendment/Response dated 3/12/07

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 9,13-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Unger et al (USPN 5,542,935 hereafter '935). The claims are drawn to a composition comprising a suspension of gas-filled microbubbles and a non-antisense antiproliferation therapeutic agent. The claims further recite a method of treating a tumor with said formulation.

3. The '935 patent teaches suspension of perfluorocarbon filled, protein coated microbubbles (abstract). The microbubbles are coated with human serum albumin (col. 22, lin. 50-63). The perfluorocarbon gases include perfluoromethane, perfluoropropane and perfluoropentane (col. 17, lin. 17-23). The microbubbles are used to delivery active agents such as taxol and doxorubicin (col. 24, lin. 27-40). The microbubbles are useful in various diagnostic and therapeutic methods such as the treatment of tumors since the microbubbles accumulate near diseased tissue (col. 23, lin. 61-col. 24, lin. 15). The microbubbles are delivered parenterally to the diseased site into the body cavity (col. 32, lin. 29-43). The microbubbles measure in size from 30-100 nanometers (col. 31, lin. 5-15). The nanoparticles are delivered to the body where

the microparticles where the drugs can be delivered with or without an ultrasonic external energy source (col. 34, lin. 39-50).

4. Regarding the claim reciting limitations to the formation of the microbubble product, it is the position of the Examiner that such limitations in a product claim do not impart patentability on the claim. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

5. With these things in mind it is the position of the Examiner that the disclosures of the '935 patent anticipate the instant claims.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. As discussed above, it is the position of the Examiner that the '935 patent teaches a microbubble formulation comprising human serum albumin and active agents. However the '935 patent further discloses that the microbubble suspensions are micro emulsified before delivery (col. 13, lin. 52-55). It is the position of the Examiner that the precursor microbubble suspension would be obvious over the instant claims since the components are identical and the formulation is used within the same field of endeavor.

9. The formulations comprise albumin as a stabilizer, the same perflurocarbons, and identical active antiproliferation non-antisense active agents. The formulations are used in identical methods of treating tumors via parenterally administration. The Office does not have the facilities for examining and comparing applicant's product with the product of the prior art in order to establish that the product of the prior art does not possess the same material structural and functional characteristics of the claimed product. In the absence of evidence to the contrary, the burden is upon the applicant to prove that the claimed products are functionally different than those taught by the prior art and to establish patentable differences. *See Ex parte Phillips*, 28 U.S.P.Q.2d 1302, 1303 (PTO Bd. Pat. App. & Int. 1993), *Ex parte Gray*, 10 USPQ2d 1922, 1923 (PTO Bd. Pat. App. & Int.) and *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977).

10. Again regarding the product claims reciting a process by which the product is produced, it is the position of the Examiner that such a limitation does not impart patentability on the claims. The limitation renders the claims a product-by-process claim. The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. See *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the

examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. See *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983)

11. With these things in mind it is the position of the Examiner that it would have been obvious to one of ordinary skill in the art to follow the teachings and suggestions of the art in order provide an improved treatment composition and method. One of ordinary skill in the art would have been motivated to follow the teachings and suggestions with an expected result tumor treatment method.

Response to Arguments

12. Applicant's arguments filed 3/12/07 have been fully considered but they are not persuasive. Applicant argues that:

a. The '935 patent does not anticipate the claims since it requires an external energy source.

13. Regarding this argument applicant is directed to column 34, lines 39-50 where the '935 patent discloses that though the microparticles can be ruptures using ultrasonic energy, it is not required to deliver the drugs to the body. This disclosure meets the limitations of the newly amended claims, thereby anticipating the instant claims.

14. Regarding Applicants' assertion that the Unger reference teaches away from non-lipid microparticles, it is unclear to the Examiner how Unger teaches away. The Unger reference

discloses various embodiments for the invention. Many embodiments comprise the use of exterior energy sources and require sterner outer coatings in order to be ruptured by the exterior energy. However as discussed above column 39, lines 39-50 also discloses microparticles that can be delivered and ruptured without the need for an external energy source. These microparticles would comprise the lighter lipid coating making it easier for the microparticles to burst and deliver their active agents to the body. It is the position of the Examiner that the Unger reference discloses both stable and less than stable coatings for a variety of delivery options, and for these reasons the reference anticipates the claims.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Micah-Paul Young whose telephone number is 571-272-0608. The examiner can normally be reached on M-F 6:00-3:30 every other Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Hartley can be reached on 571-272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Micah-Paul Young
Examiner
Art Unit 1618

MPY

MP Young

MICHAEL G. HARTLEY
SUPERVISORY PATENT EXAMINER